

CLAIMS

1. A method of making a hydroformylated product comprising contacting an oxygenate with a molecular sieve catalyst to form an olefin composition;
5 separating a propylene containing stream from the olefin composition and contacting the propylene containing stream with a rhodium hydroformylation catalyst to form a hydroformylated product.
2. The method according to claim 1 wherein the propylene containing stream
10 contains at least 50 wt % propylene, not greater than 10 ppb by weight of sulfur calculated on an atomic basis, and at least 100 ppb by weight of dimethyl ether.
3. The method of claim 1 or 2 wherein the propylene containing stream contains at least 60 wt % propylene.
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4. The method of claim 3, wherein the propylene containing stream contains at least 96 wt % propylene.
5. The method of any of the preceding claims, wherein the propylene
20 containing stream contains 100 ppb to 50000 ppm by weight of dimethyl ether.
6. The method of claim 5 wherein the propylene containing stream contains from 100 ppb to 5000 ppm by weight of dimethyl ether.
- 25 7. The method of any of claims 1 to 4 wherein the propylene containing stream contains from 2.5 to 25000 ppm by volume of dimethyl ether.
8. The method of any of the preceding claims, wherein the propylene containing stream is contacted with the rhodium hydroformylation catalyst at a
30 pressure of from 0.05 to 50 MPag.
9. The use of a propylene containing stream obtained by the conversion of

oxygenates to olefins in a hydroformylation reaction to produce butyraldehyde.

10. The use according to claim 9 in which the hydroformylation reaction is rhodium catalysed.

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11. A propylene composition comprising propylene, less than 5 weight percent ethylene based on the weight of the total composition and dimethyl ether (DME) in an amount of from greater than 2 ppm by volume to 50000 ppm by volume based on the volume of the total composition.

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12. The composition according to claim 11 which comprises from 2.5 to 25000 vppm DME.

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13. The composition according to claim 12 which comprises from 5 to 5000 vppm DME.

14. The composition according to any of claims 11 to 13 which comprises less than 1 weight percent ethylene.

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15. The composition according to claim 14 which comprises less than 15 vppm ethylene.

16. The composition according to any of claims 11 to 15 which comprises at least 96 weight percent propylene.

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17. The composition according to any of claims 11 to 16 obtainable by a process for the conversion of oxygenates to olefins.

18. The composition according to any of claims 11 to 17 which contains not greater than 10 ppb by weight of sulfur calculated on an atomic basis.

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